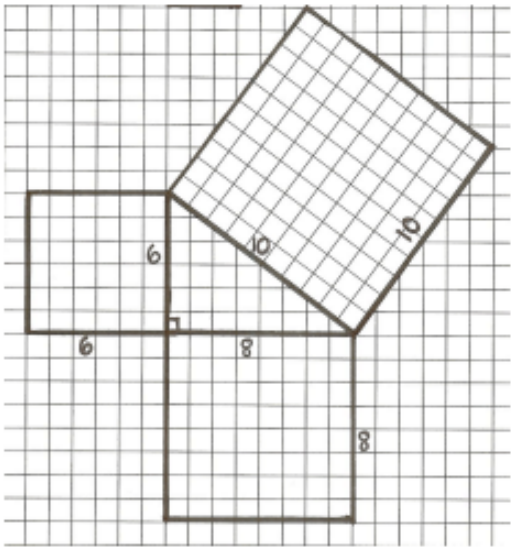
Triangle Investigation

Name _____
Date _____ Period_____

Use the diagrams to answer the following questions.



What are the lengths of the legs of the right triangle?

_____ and _____

What is the length of the hypotenuse?

_____

What are the areas of the squares off of the legs?

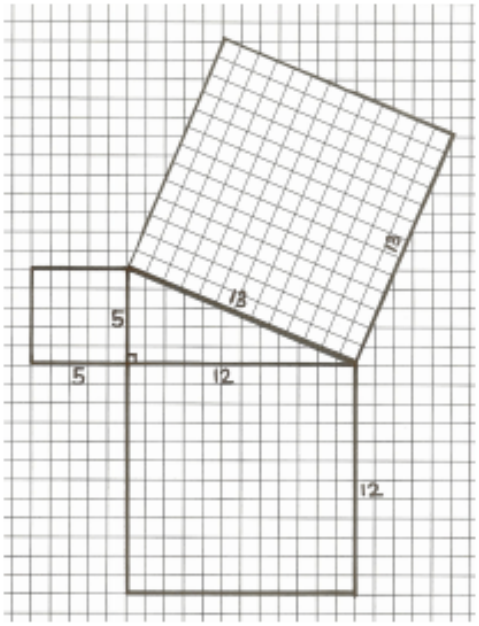
_____ and _____

What is the sum of those two areas?

_____

What is the area of the square off of the hypotenuse?

_____



What are the lengths of the legs of the right triangle?

_____ and _____

What is the length of the hypotenuse?

_____

What are the areas of the squares off of the legs?

_____ and _____

What is the sum of those two areas?

_____

What is the area of the square off of the hypotenuse?

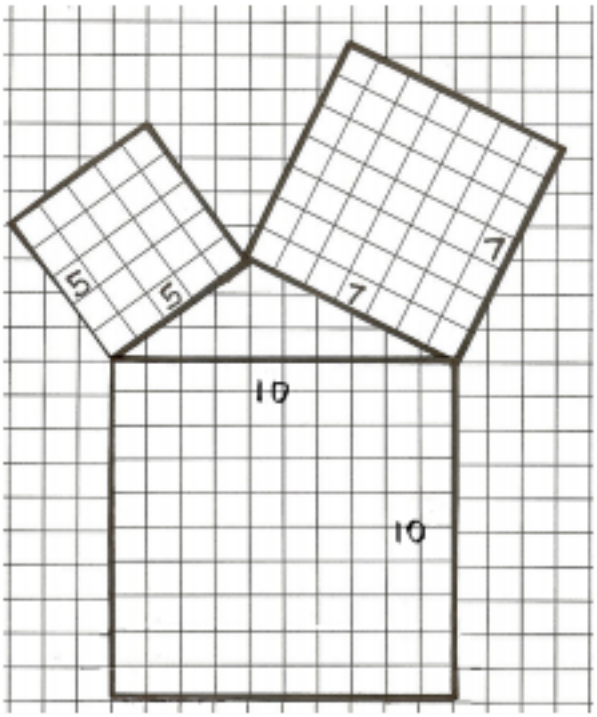
_____

Explain the relationship between the sum of the areas off of the legs and area off of the hypotenuse?

_____

Do you think all right triangles will have lengths that are integers? Explain. _____

_____



What are the lengths of the shorter sides of the triangle? _____ and _____

What is the length of the longest side? _____

What are the areas of the squares off of the two shorter sides? _____ and _____

What is the sum of those two areas? _____

What is the area of the square off of the longest side? _____

If there is no relationship, why do you think that is? _____

_____

The data below was taken from five right triangles with sides *a, b,* and *c.* The square off each side is denoted with a capital letter. Using what you have discovered, complete the table:

a	Area of *A*	*b*	Area of B	Area of C	*c*
6		8			
5		4			
9		10			
	1		4		
	9			36	